



Snohomish County Public Works

PUBLIC NOTICE

DETERMINATION OF NONSIGNIFICANCE (DNS)

PROJECT NAME: 2016-2020 Snohomish County Beaver Deterrence, Dam Modification and Removal Program

DESCRIPTION OF PROPOSAL:

The purpose of the Beaver Deterrence, Dam Modification and Removal Program is to provide protection to Snohomish County roads and infrastructure from flooding events caused by beaver activity in or adjacent to County rights-of-way. Snohomish County Public Works intends to minimize any disruptions to the beaver environment which also provides essential habitat for fish and wildlife species. To accomplish this program goal, each individual situation will be evaluated to determine the approach with the least impact for removing the threat of flooding and road damage. All of the methods used and any impacts will be consistent throughout the program. The following list of control methods will be used as appropriate:

1. Partial removal of a beaver dam through lowering of the structure or notching;
2. Beaver deterrence activities including the use of blinking lights, scent repellants and habitat management techniques;
3. Installation of a pond leveler to lower water levels;
4. Installation of beaver excluder devices to maintain water flows through culverts;
5. Where new dams or debris jams have been constructed inside culverts or other drainage structures causing flooding problems, blockage may be removed and excluder devices installed.

These activities will be on-going and will comply with all local, state and federal regulations. Construction methods will be timed to provide minimum disturbance to beavers, fish, and other wildlife. When pond levels are lowered, care will be taken to slowly prevent degradation of downstream water quality and habitat. Best management practices will be implemented at all project sites.

LOCATION OF PROPOSAL:

These activities are conducted, as needed, throughout unincorporated Snohomish County.

Beaver Dam Modification and Removal Program (2016-2020)

SEPA Determination of Non-Significance

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APPLICANT AND CONTACT PERSON:

Contact: Mary Auld, Senior Planner
Snohomish County Public Works
3000 Rockefeller Avenue, M/S 607, Everett, WA 98201
(425) 388-3488 extension 4510
mary.auld@snoco.org

LEAD AGENCY:

Snohomish County Public Works (Lead Department)

THRESHOLD DETERMINATION:

The lead agency for this proposal has determined that it does not have a probable significant adverse impact on the environment. An environmental impact statement (EIS) is not required under RCW 43.21C.030(2)(c). This decision was made after review of a completed environmental checklist and other information on file with the lead agency. This information is available to the public upon request.

PUBLIC COMMENT AND APPEAL PERIOD:

There is a concurrent 14-day comment and appeal period on this DNS. The public is invited to comment on this proposal according to the schedule below. The file is available for review at Snohomish County Public Works, 3000 Rockefeller Ave., Robert J. Drewel Building, 2nd Floor, Customer Service Center, Everett, Washington. Please contact Mary Auld for assistance prior to arriving at the Customer Service Center.

Comments on the DNS addressing environmental issues must be submitted in writing by 5:00 PM, on November 16, 2015. Written comments will be considered and may cause the DNS to be revised. Appeals to the DNS must be submitted in writing, also by 5:00 PM, on November 16, 2015.

RESPONSIBLE OFFICIAL:

Signature:  Date: October 28, 2015
Steven E. Thomsen, P.E., Public Works Director

Disclaimer: The issuance of this Determination of Non-Significance (DNS) should not be interpreted as acceptance or approval of this proposal as presented. Snohomish County reserves the right to deny or approve said proposal subject to conditions if it is determined to be in the best interest of the County and/or necessary to the general health, safety, and welfare of the public to do so.

SEPA PROGRAMMATIC DISTRIBUTION LIST:

Tribal Government

Muckleshoot Tribe
Samish Indian Nation
Sauk-Suiattle Tribe
Skagit River System Cooperative
Snoqualmie Tribe
Stillaguamish Tribe
Suquamish Tribe
Swinomish Indian Tribal Community
Tulalip Tribes
Upper Skagit Indian Tribe

Federal Agencies

Army Corps of Engineers
Fish and Wildlife Service
National Marine Fisheries Service

State Agencies

Department of Archaeology and Historic Preservation
Department of Ecology
Department of Fish and Wildlife
Department of Natural Resources
Department of Transportation

Other

Snohomish County Planning and Development Services
Snohomish County Department of Parks and Recreation
Adopt-a-Stream Foundation
Snohomish Conservation District
Futurewise

Title VI and Americans with Disabilities Act (ADA) Information: It is Snohomish County's policy to assure that no person shall on the grounds of race, color, national origin, or sex as provided by Title VI of the Civil Rights Act of 1964, as amended, be excluded from participation in, be denied the benefits of, or otherwise be discriminated against under any County sponsored program or activity. For questions regarding Snohomish County Public Works' Title VI Program, or for interpreter or translation services for non-English speakers, or otherwise making materials available in an alternate format, contact the Department Title VI Coordinator via e-mail at spw-titlevi@snoco.org or phone 425-388-6660. Hearing/speech impaired may call 711.



Snohomish County Public Works

ENVIRONMENTAL CHECKLIST

Purpose of Checklist:

Governmental agencies use this checklist to help determine whether the environmental impacts of your proposal are significant. This information is also helpful to determine if available avoidance, minimization or compensatory mitigation measures will address the probable significant impacts or if an environmental impact statement will be prepared to further analyze the proposal.

SUMMARY

A. BACKGROUND

1. Name of proposed project:
2016-2020 Snohomish County Beaver Deterrence, Dam Modification, and Removal Program
2. Name of applicant:
Snohomish County Public Works
3. Address and phone number of applicant and contact person:
Contact Person:
Terri Hawke, Environmental Planner
Snohomish County Public Works
Transportation and Environmental Services Division
3000 Rockefeller Avenue, M/S 607
Everett, WA 98201

(425) 388-3488 ext. 2337 or
terri.hawke@snoco.org
4. Date checklist prepared:
October 20, 2015
5. Agency requesting checklist:
Snohomish County Public Works

6. Proposed timing or schedule (including phasing, if applicable):

This SEPA Checklist is prepared for beaver deterrence, dam modification, and removal activities for the period of January 2016 to December 2020. Beaver deterrence, dam modification, and removal activities may be conducted, as needed, throughout the year. Some activities such as installation of beaver exclusion devices are weather dependent, and are typically installed between July and October when streams and drainages are in a low-flow period. Other activities, such as scent repellants, would generally occur during high-flow periods between November and May of the following year.

All work would conform to work windows identified in government approvals and permits. Work duration would range from one day to two weeks for individual beaver deterrence, dam modification, or removal activities.

7. Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? If yes, explain.

Beaver deterrence, dam modification, and removal activities are anticipated to be on going and extend beyond the January 2016 to December 2020 timeframe proposed in this SEPA Checklist. Snohomish County (County) undertakes regular monitoring of locations where deterrence devices have been installed or dams have been modified or removed. If beaver activity persists and continues to pose a threat to County maintained infrastructure, then additional beaver deterrence, dam modification, and removal activities may be required. Installed devices may be removed or remain in place while additional strategies and devices are tried.

8. List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal.

Regional Road Maintenance Endangered Species Act (RRMESA) Program Guidelines

The RRMESA Program Guidelines provide a consistent, regional program that is used by Snohomish County Public Works, Road Maintenance Division to limit, reduce, or eliminate take of threatened species under the 4(d) rule and/or Section 7 of the Endangered Species Act. The RRMESA Program Newsletters identify best management practices (BMPs) for beaver management. The newsletters are available by request.

Snohomish County Drainage Manual

The Drainage Manual sets forth requirements for maintaining stormwater management facilities, including maintenance standards for beaver dams. The manual meets the requirements of Snohomish County Codes and state water quality standards, and complies with the Clean Water Act, Puget Sound Water Quality Management Plan, and the National Pollution Discharge Elimination System (NPDES) Phase 1 Municipal Stormwater Permit.

Snohomish County Beaver Dam Maintenance Guideline Draft

The County is currently in the process of drafting a beaver dam maintenance guideline. Once complete, this guideline would provide policy direction for the selection of management options under the beaver deterrence, dam modification, and removal program. The guideline would also provide maintenance standards for installed beaver deterrence devices.

9. Do you know whether applications are pending for governmental approvals of other proposals directly affecting the property covered by your proposal? If yes, explain.
No pending government approvals or proposals are known to affect the geographic area covered by this proposal at this time.
10. List any government approvals or permits that will be needed for your proposal, if known.
Federal, state, and/or local permits may be required and would vary by activity and location. Each activity would be individually reviewed, and government approvals and/or permits would be obtained, as needed. Required permits and approvals may include:

Endangered Species Act (ESA)

Beaver deterrence, dam modification, and removal activities would comply with the Endangered Species Act when federally-listed endangered or threatened species are present. This act is administered by the National Oceanic and Atmospheric Administration-Fisheries (NOAA) and the US Fish and Wildlife Service (USFWS). Within the County, NOAA has issued rules prohibiting “take” of threatened Chinook Salmon [4(d)]. The Road Maintenance Division participates in the RRMESA program which satisfies the requirements of these rules.

Additionally, if beaver deterrence, dam modification, or removal require a federal authorization or utilize federal funds, an ESA Section 7 consultation with NOAA-fisheries and/or the USFWS would be necessary to ensure activities do not jeopardize the continued existence of an endangered or threatened species or destroy or adversely modify their critical habitat [16 U.S.C. §1536(a)(2)].

Clean Water Act

Pursuant to the Federal Water Pollution and Control Act (Clean Water Act), as amended, a Section 404 permit from the U.S. Army Corps of Engineers would be required for any discharge of dredge or fill material waterward of the ordinary high water mark (or mean higher high tide line in tidal areas) in waters of the United States. Additionally, Section 402 of the Clean Water Act established the NPDES program; beaver deterrence, dam modification, and removal are covered under the Phase 1 General Municipal Stormwater Permit for the County, and the County Drainage Manual.

National Flood Insurance Program

The Federal Emergency Management Agency (FEMA) requires a permit for activities that occur within Flood Hazard Areas. Beaver deterrence, dam modification, and

removal may occur within Flood Hazard Areas, however, requirements under the National Flood Insurance Program are satisfied by the Road Maintenance Division's participation in the RRMESA program.

Beaver- related State Fish and Wildlife protections

Beaver are managed by the Washington Department of Fish and Wildlife under a series of regulations (RCW Chapter 77.15, 77.32 and 77.36). A trapping license is required for all traps, other than live traps. A permit is also required to release a beaver anywhere within the state, other than the property where it was legally trapped. WDFW does not currently allow relocation of beaver west of the Cascades Mountain Range. Beaver deterrence, dam modification, and removal activities will comply with all beaver-related Fish and Wildlife protections.

Hydraulic Project Approval (HPA)

The Washington Department of Fish and Wildlife must issue an HPA for beaver deterrence, dam modification, and removal activities affecting "waters of the state" (WAC 220-110) and "beaver dam management" (WAC 220-660-230). Activities may be covered under a General HPA or project specific "Individual" HPA.

Shoreline Management Act

Pursuant to the Shoreline Management Act of 1971, beaver deterrence, dam modification, and removal activities may require a Shoreline Substantial Development Permit for activities within shoreline environments (WAC 173-27-040).

Snohomish County Code (SCC)

Beaver deterrence, dam modification, and removal activities are required to comply with applicable provisions of Chapter 30.62 (Critical Areas Regulations), Chapter 30.63A (Drainage), Chapter 30.63B (Land Disturbing Activity), and Chapter 30.44 (Shoreline Permits).

11. Give a brief, complete description of your proposal, including the proposed uses and the size of the project and site.

Beaver deterrence, dam modification, and removal are performed on an as needed basis and are triggered by beaver activity in conjunction with the potential to cause damage to County maintained infrastructure. Infrastructure includes, but is not limited to, roads, trails, buildings, utilities and drainage facilities, such as culverts. Typical beaver deterrence, dam modification, and removal activities would include the following:

Beaver Deterrence:

Beaver deterrence activities include the use of blinking lights, scent repellants, habitat management techniques, or installation of beaver exclusion devices. Nighttime blinking lights would be temporarily installed in areas of high beaver activity and near drainage features where beavers typically build dams. Scent repellants such as coyote urine may also be temporarily used to deter beaver activity. Habitat management techniques may include removing vegetation, planting native vegetation that offers limited food for

beavers, and using barriers to protect plants from beaver damage. Beaver exclusion devices may also be installed on drainage facilities (i.e. culvert inlets) to prohibit beaver activity. These devices are typically constructed of lumber and fence material. Work crews would use hand tools such as hammers and shovels to install and maintain beaver deterrence devices.

Beaver Dam Modification:

Beaver dam modification may include notching, installation of pond leveling devices, partial removal of beaver dams, and relocation of woody material. Notching would involve cutting a hole or depression in a beaver dam. A pipe may be installed across the notch to maintain the beaver pond at a lower pond level. Similar to notching, pond leveling devices move collected beaver pond water through the beaver dam and out the other side. Partial removal of the beaver dam and relocation of woody material would involve removing woody debris and mud from beaver dams and drainage facilities. Work crews would use hand held equipment such as winches, grappling hooks, chainsaws and potato forks, and in special circumstances, heavy equipment such as a backhoe to perform beaver dam modification activities.

Beaver Dam Removal:

Beaver dam removal may be required when other techniques would not protect County maintained infrastructure. Beaver dam removal would involve relocation of woody material and mud from beaver dams using hand tools and heavy equipment similar to those used for beaver dam modification.

Experimental Techniques and Technology:

Beavers are industrious and current management techniques may not work in all circumstances. New techniques and technologies may be used to prevent beaver damage to County maintained infrastructure or reduce environmental impacts of beaver deterrence, dam modification, and removal practices. New techniques and technologies would comply with all applicable government approvals and permits.

12. Location of proposal:

Beaver deterrence, dam modification, and removal activities would occur throughout Snohomish County in areas where beaver activity causes damage to County maintained infrastructure.

B. ENVIRONMENTAL ELEMENTS

1. Earth

a. General description of the site (shown in ***bold*** type): flat, rolling, hilly, steep slopes, mountainous, other.

The terrain varies from site to site, but in general, most streams and wetlands in the County are located at low gradient areas. The County encompasses approximately 2,098 square miles. Six major topographic plateaus separated by narrow streams and broad river channels characterize the western portion of the County. Floodplains formed by the Snoqualmie, Skykomish, Snohomish, and Stillaguamish Rivers create topographic boundaries between the plateaus. The land in this area is flat to rolling in bench-like glaciated plains. Swamp, North, and Little Bear Creeks also flow through flat to rolling topography. The eastern portion of the County contains the foothills and mountains of the Cascade Mountain Range. Very steep mountains and narrow valleys characterize this area. The Sauk River forms a floodplain of limited extent along the northeast boundary of the County.

b. What is the steepest slope on the site (approximate percent slope)?

Slopes in the County vary ranging from 0 percent to over 50 percent. Generally, beaver activity occurs in the low gradient stream areas.

c. What general types of soils are found on the site (for example, clay, sand, gravel, peat, muck)? If you know the classification of agricultural soils, specify them and note any agricultural land of long-term commercial significance and whether the proposal results in removing any of these soils.

Soil types vary by site. The Natural Resources Conservation Service (NRCS) has mapped six general soil types in the County:

1. **Puget-Sultan-Pilchuck:** found on floodplains along the major streams in the northern, central and southern parts of the County. This soil type is very deep, and drainage varies from poor to excessive.
2. **Norma-Lynnwood Custer:** found in the north-central part of the County. Very deep, drainage varies from poor to excessive.
3. **Alderwood Everett:** found adjacent to Puget Sound, along the western boundary of the County. Moderately to very deep, moderately to somewhat excessively drained.
4. **Tokul-Pastik:** found in the central, northern, and southern parts of the County. Moderately to very deep, moderately well drained.
5. **Elwell-Olomount-Skykomish:** found in the mountainous eastern part of the County. Moderately to very deep, moderately well drained to somewhat excessively drained.
6. **Getchell-Oso:** found in the mountainous northern and southern edges of the County. Moderately deep and moderately well drained.

These general types are divided into approximately 40 different kinds of soil. Terric medasaprists and Mukilteo muck are both found within the above general soil types. Beaver activity is associated with these two soil types which are very deep, very poorly drained wetland soils.

d. Are there surface indications or history of unstable soils in the immediate vicinity? If so, describe.

Surface indication or history of unstable soils would vary by site. The Puget Sound region, including the County, is susceptible to several types of hazardous soil or geological conditions. These include erosion, landslide, and seismic hazards.

e. Describe the purpose, type, total area, and approximate quantities and total affected area of any filling, excavation, or grading proposed. Indicate source of fill.

In general, fill, excavation and grading are not required for beaver deterrence, dam modification, and removal activities. Refer to section B.3.a.3 for further information on dredge or fill materials that may be placed in surface waters or wetlands.

f. Could erosion occur as a result of clearing, construction, or use? If so, generally describe.

Minor amounts of erosion may occur during dam modification or removal activities. Sediment build up behind (upstream of) beaver dams may discharge after dams are removed. In most cases, if beaver dam removal is required it is done within the first year following construction; this minimizes the amount of sediment that may be released to the stream. Appropriate erosion control BMPs from issued permits, such as a HPA, will be implemented to minimize erosion.

g. About what percent of the site will be covered with impervious surfaces after project construction?

Does not apply.

h. Proposed measures to reduce or control erosion, or other impacts to the earth, if any:

Any increase in erosion or turbidity would be temporary in nature and would be addressed through implementation of *RRMESA Program Guidelines BMPs*, *Snohomish County Road Maintenance Standard Operating Procedures*, and BMPs from issued permits. These BMPs may include: slowly releasing water from behind the beaver dam, installing temporary erosion control fences, check dams, filter fabric, straw bales, or temporary diversions. Where possible, work would be performed during no or low flow conditions or flow would be temporarily diverted. Equipment would be staged from the paved area of the road or equipment staging areas with temporary erosion and sediment control measures.

2. Air

a. What types of emissions to the air would result from the proposal during construction, operation, and maintenance when the project is completed? If any, generally describe and give approximate quantities if known.

Hand tools and equipment would primarily be used for beaver deterrence, dam modification, and removal activities. When heavy equipment is required, it may result in minor, temporary increases in emissions. There would be no further emissions once the beaver management activities are complete.

b. Are there any off site sources of emissions or odor that may affect your proposal? If so, generally describe.

Does not apply.

c. Proposed measures to reduce or control emissions or other impacts to air, if any.

Hand tools would be used for most beaver deterrence, dam modification, and removal activities. Emissions from equipment and vehicles would not exceed federal and state air quality standards and would meet Occupational Safety and Health Administration (OSHA) and Department of Occupational Safety and Health (DOSH) standards.

Vehicles would be turned off when idle.

3. Water

a. Surface Water

1) Is there any surface water body on or in the immediate vicinity of the site (including year round and seasonal streams, saltwater, lakes, ponds, wetlands)? If yes, describe type and provide names. If appropriate, state what stream or river it flows into.

The County contains two major river basins and numerous wetland and pond areas. The Stillaguamish River and its north and south forks dominate the northern region, while the Snohomish River and its two major sources, the Skykomish and Snoqualmie dominate the south. These rivers have their sources in the forested mountain areas and flow generally west through broad agricultural floodplains and developed areas into Puget Sound.

Smaller stream basins are generally oriented north/south, and several of these, such as North Creek, Swamp Creek, and Quilceda Creek, flow through rapidly developing suburban and urban areas. The Sauk River forms a small floodplain north and east of Darrington, in the northeast portion of the County and flows north to the Skagit River in Skagit County. Streams are classified by the County as shorelines of the State, fish bearing, perennial non-fish bearing or seasonal non-fish bearing, based on a number of factors, including channel width, gradient, flow, impoundment, fish use, diversion, and other factors. Wetlands are rated and typed based on a number of factors per SCC 30.62A.230.

Beaver dams are generally found in low-gradient streams, sometimes associated with wetlands or lakes and ponds. A natural resource specialist would review each site to ensure that beaver deterrence, dam modification and removal activities comply with all applicable state, federal, and local regulations.

2) Will the project require any work over, in, or adjacent to (within 200 feet) the described waters? If yes, please describe and attach available plans.

Most activities would occur in or adjacent to surface water or stormwater drainage features. Any activity occurring in or adjacent to waters of the state or waters of the United States would undergo the appropriate level of environmental review and will comply with all applicable federal, state, and/or local regulations.

3) Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected. Indicate the source of fill material.

Sediment, mud and small woody debris used to construct beaver dams may be removed or re-positioned downstream during partial or full dam removal activities. Additionally, placement of beaver exclusion devices would require installation of wire fencing and wood stakes within streams and wetlands. There would be no fill. All work will follow federal, state, and/or local BMPs as listed in applicable permits and approvals.

4) Will the proposal require surface water withdrawals or diversions? Give general description, purpose, and approximate quantities if known.

If water is flowing at the site, it may be temporarily diverted during dam modification or removal activities. In general, stream diversions would be avoided due to the environmental impact of installing a pump and bypass. Notching the beaver dam and slowly releasing the water downstream would be the preferred option in most cases.

5) Does the proposal lie within a 100-year floodplain? If so, note location on the site plan.

Yes. Most activities would occur within the 100-year floodplain. All applicable permits and approvals will be acquired before performing beaver deterrence, dam modification, and removal activities.

6) Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge.

All appropriate BMPs and containment measures would be used to minimize debris or waste materials from entering surface waters.

b. Ground

1) Will ground water be withdrawn from a well for drinking water or other purposes? If so, give a general description of the well, proposed uses, and approximate quantities withdrawn from the well? Will water be discharged to groundwater? Give general description, purpose, and approximate quantities if known.

Does not apply.

2) Describe waste material that will be discharged into the ground from septic tanks or other sources, if any (for example: domestic sewage; industrial, containing the following chemicals; agricultural; etc.). Describe the general size of the system, the number of such systems, the

number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve.

Does not apply.

c. Water Runoff (including storm water)

1) Describe the source of runoff (including stormwater) and method of collection and disposal, if any (include quantities, if known). Where will this water flow? Will this water flow into other waters? If so, describe.

Does not apply.

2) Could waste materials enter ground or surface waters? If so, generally describe.

Installed devices, such as blinking lights, may be dislodged and swept downstream during storm events. Typically these devices are either firmly affixed or removed prior to heavy rainfall events. If dislodged, these devices may become waste. All appropriate BMPs and containment measures would be used to minimize debris or waste materials from entering surface waters. There would be no waste material impacts to ground water.

3) Does the proposal alter or otherwise affect drainage patterns in the vicinity of the site? If so, describe.

Beaver dams impound water behind them and increase groundwater recharge. Installation of pond leveling devices which allow water to pass through the dam or partial or full dam removal would have a minor impact to these drainage patterns. Beaver dam removal is generally limited to dams less than one year old.

d. Proposed measures to reduce or control surface, ground, and runoff water, and drainage pattern impacts, if any.

All appropriate BMPs would be utilized to minimize impacts to surface water. There may be minor impacts to ground water recharge. Beaver dams would be lowered slowly and gradually to control sediment and scouring downstream. Where possible, work would be done during periods of low or no flow to minimize significant adverse environmental impacts. Heavy equipment staging areas would have temporary erosion and control BMPs or would be staged from the paved area of the road. The *RRMESA Program Guidelines*, *Snohomish County Drainage Manual*, and other pertinent documents provide guidance for the use of erosion control BMPs.

BMPs to be utilized, as appropriate, to control and minimize site erosion and turbidity may include but are not limited to:

- **Placing silt control fencing for perimeter flow containment,**
- **Installing check- or diversion dams for water flow control and sediment containment,**
- **Using filter fabric fencing as perimeter sediment containment barrier,**

- Temporarily pumping water flows around site to create dry working conditions, and
- Staging machinery use out of water flow areas.

4. Plants

a. Check the types of vegetation found on or in close proximity to the site:

- ☒ Deciduous trees: red alder, maples, willows, black cottonwood, and other native and non-native species
- ☒ Coniferous trees: Douglas-fir, Western redcedar, Sitka spruce, and other native non-native species
- ☒ Shrubs: salmonberry, thimbleberry, snowberry, sword fern, black twinberry, and other native and non-native species
- ☒ Grasses: native and non-native grasses, lawns
- ☒ Pasture
- ☒ Crop or grain
- ☒ Orchards, vineyards, or other permanent crops
- ☒ Wet soil plants: cattail, buttercup, bulrush, skunk cabbage, and other native and non-native species
- ☒ Water plants: pond lily and other native and non-native species
- ☒ Other types of vegetation: Himalayan blackberries, reed canary grass, and other native, non-native species, and ornamental species are found throughout the County

Vegetation would vary by site, including wet soil and water plants. The County has a variety of native and non-native plant species. Any of the types of vegetation listed above may occur on or adjacent to the affected geographic area.

b. What kind and amount of vegetation will be removed or altered?

For most beaver deterrence, dam modification and removal activities no or minimal disturbance to vegetation would occur. If habitat management is utilized as a beaver deterrence strategy, fences may be placed around tree trunks to prevent predation by the beaver. Additionally, plants may be removed and replanted with native species that are not preferred by beaver.

c. List threatened and endangered plant species known to be on or near the site.

According to the Washington State Department of Natural Resources Natural Heritage Information System there are 1 endangered species, 5 threatened species, 20 sensitive species, and 7 species of potential concern in the County. Under the Federal Endangered Species Act there is one plant species of concern.

If a threatened or endangered plant species is suspected to be on or near a site, an environmental review would be conducted to confirm the presence or absence of the

plant species. Where such species are discovered, all work will comply with the Endangered Species Act and other applicable regulations. This may include implementation of BMPs developed for federal- and state-listed species under the RRMESEA.

d. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation of the site, if any:

No vegetation removal is proposed, except for habitat management associated with beaver deterrence activities. If the habitat management strategy is used, then some vegetation may be removed and replaced with native vegetation that beaver do not prefer.

e. List all noxious weeds and invasive species known to be on or near the site.

Several noxious weeds are known to occur near County maintained roadways and may occur on or near the site of beaver management activities:

- Tansy ragwort,
- Canada and Bull thistle,
- Hawkweed,
- Knapweed,
- Garlic mustard,
- Wild chervil,
- Common fennel,
- Purple loosestrife,
- Policeman's helmet,
- Poison hemlock,
- Spurge laurel,
- Dalmation toadflax,
- Giant hogweed, and
- Gorse.

For a complete list of County noxious weeds see:

<http://snohomishcountywa.gov/750/2974/Noxious-Weeds-List>.

5. Animals

a. List any birds and other animals which have been observed on or near the site or are known to be on or near the site. Examples include:

birds: hawks, heron, eagle, songbirds, owls, ducks, woodpeckers, ravens

mammals: deer, bear, elk, beaver, opossum, raccoon, coyote, small rodents, river otter, weasel, skunk

fish: salmon, trout, lamprey

Any of the above wildlife may occur on or adjacent to a site. Some beaver ponds and associated streams may be used by fish, or may be tributaries to fish-bearing streams.

Dam modification and removal activities would undergo individual review, where appropriate, and will comply with all provisions of the Endangered Species Act, HPA, and other applicable regulatory requirements.

b. List any threatened and endangered wildlife species known to be on or near the site.

Wildlife would vary by site. As of July 2015 the following threatened, endangered, sensitive or priority species that may be found within the County include:

Common Name	Latin Name	Federal Designation	State Designation
Puget Sound ESU Chinook salmon	<i>Oncorhynchus tshawytscha</i>	Threatened	Candidate
Puget Sound DPS Steelhead	<i>Oncorhynchus mykiss</i>	Threatened	N/A
Bull trout	<i>Salvelinus confluentus</i>	Threatened	Candidate
Pygmy whitefish	<i>Prosopium coulteri</i>	N/A	Sensitive
Margined sculpin	<i>Cottus marginatus</i>	N/A	Sensitive
Olympic mud minnow	<i>Novumbra hubbsi</i>	N/A	Sensitive
Oregon spotted frog	<i>Rana pretiosa</i>	Threatened	Sensitive
Larch mountain salamander	<i>Plethodon marselli</i>	N/A	Sensitive
Common loon	<i>Gavia immer</i>	N/A	Sensitive
Peregrine falcon	<i>Falco peregrinus</i>	Species of Concern	Sensitive
Bald eagle	<i>Haliaeetus leucocephalus</i>	Species of Concern	Sensitive
Marbled Murrelet	<i>Brachyramphus marmoratus</i>	Threatened	Threatened
Northern spotted owl	<i>Strix occidentalis caurina</i>	Threatened	Endangered
Yellow-billed cuckoo	<i>Coccyzus americanus</i>	Threatened	Candidate
Fisher	<i>Martes pennanti</i>	Endangered	Endangered
Gray wolf	<i>Canis lupus</i>	Endangered	Endangered
Grizzly bear	<i>Ursus arctos horribilis</i>	Threatened	Endangered
Southern resident killer whale	<i>Orcinus orca</i>	Endangered	Endangered

Where federally threatened or endangered species are found, all work will conform to the requirements of the Endangered Species Act. Where state listed species or Priority Habitats and Species (PHS) are found the Washington Department of Fish and Wildlife

species recommendations will be followed, when appropriate. The most current PHS list can be found at: <http://wdfw.wa.gov/conservation/phs/list/>.

c. Is the site part of a migration route? If so, explain.

Yes. The site is within the Pacific Flyway for migratory birds of all species. The flyway stretches between Alaska and South America. All migratory birds are protected by the Migratory Bird Treaty Act (MBTA) administered by the USFWS. Bald eagles are also protected by the Bald and Golden Eagle Protection Act, also administered by the USFWS.

Some sites may be located in or along streams that salmonids use when moving between saltwater and freshwater spawning areas.

d. Proposed measures to preserve or enhance wildlife, if any:

Beaver ponds are natural wildlife habitat enhancements; therefore these pond and stream habitat would be carefully protected and preserved, where possible. In-stream work would generally be done in the summer or fall during periods of low or no flow, and in accordance with conditions of a HPA. Erosion control BMPs will be implemented as necessary. An annual review on the status of the program will be conducted upon request by Washington Department of Fish and Wildlife.

e. List any invasive animal species known to be on or near the site?

The presence of invasive animal species would vary by site. If an invasive animal species is present on or near a site additional environmental review or analysis may be required prior to the beaver deterrence, dam modification or removal activities.

6. Energy and Natural Resources

a. What kinds of energy (electric, natural gas, oil, wood stove, solar) will be used to meet the completed project's energy needs? Describe whether it will be used for heating, manufacturing, etc.

Does not apply.

b. Would your proposal affect the potential use of solar energy by adjacent properties? If so, generally describe.

Does not apply.

c. What kinds of energy conservation features are included in the plans of this proposal? List other proposed measures to reduce or control energy impacts, if any:

Does not apply.

7. Environmental Health

a. Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill, or hazardous waste that could occur as a result of this proposal? If so, describe.

Most activities would be conducted using hand tools, however when heavy equipment is used common construction hazards such as fire or injury may occur. Additionally a potential exists for vehicles to leak small amounts of oil onto the adjacent road surface. Spill control kits would be located on-site when heavy equipment is used to contain and clean up any potential spills.

1) Describe any known or possible contamination at the site from present or past uses.

Typically beaver activity that threatens County-maintained infrastructure occurs within the road right-of-way. This area may become contaminated from normal road use, accidental spills, illegal dumping or adjacent activities (including utilities). If a site is found to be contaminated, all work would stop, the area evaluated for impacts to human health and the environment and appropriate measures taken. In some cases, this may mean containment and site clean-up or issuing appropriate personal protective equipment. Other agencies such as the Washington State Department of Ecology (DOE) would be notified, if appropriate.

2) Describe existing hazardous chemicals/conditions that might affect project development and design. This includes underground hazardous liquid and gas transmission pipelines located within the project area and in the vicinity.

Beaver deterrence activities do not generally require below ground disturbance. If ground-disturbing activities are required, utilities would be located and avoided where possible.

3) Describe any toxic or hazardous chemicals that might be stored, used or produced during the project's development or construction, or at any time during the operating life of the project.

Does not apply.

4) Describe special emergency services that might be required.

Fire or ambulance services could be required in the event of a construction accident.

5) Proposed measures to reduce or control environmental health hazards, if any:

Spill control kits are carried by County Road Maintenance vehicles. All equipment would be well maintained and in good repair to prevent the loss of any petroleum products. Crew leads are equipped with cellular telephones and equipment operators are trained in the safe use of equipment.

b. Noise

1) What types of noise exist in the area which may affect your project (for example: traffic, equipment, operation, aircraft, other)?

Does not apply.

2) What types and levels of noise would be created by or associated with the project on a short-term or a long-term basis (for example: traffic, construction, operation, other)? Indicate what hours noise would come from the site.

Short-term noise would be generated by truck traffic to and from the site, vehicles carrying workers to and from the site, and equipment used during beaver deterrence, dam modification and removal activities.

3) Proposed measures to reduce or control noise impacts, if any:

Beaver dam modification and removal activities would normally be limited to the hours of 7:00 a.m. – 8:00 p.m., Monday through Friday. However, partial or full dam removal may occur at any time if roads are threatened. Equipment will comply with applicable OSHA and DOSH standards.

8. Land and Shoreline Use

a. What is the current use of the project site and adjacent properties? Will the proposal affect current land uses on nearby or adjacent properties? If so, describe.

Beaver dam sites consist of streams, wetlands, and associated culverts and roads throughout the County. Adjacent properties include rural, residential, forested, recreational, industrial, commercial, and urban uses.

b. Has the project site been used as working farmlands or working forest lands? If so, describe. How much agricultural or forest land of long-term commercial significance will be converted to other uses as a result of the proposal, if any? If resource lands have not been designated, how many acres in farmland or forest land tax status will be converted to non-farm or non-forest use?

Many roadways, where County infrastructure is located, were constructed in historic farmlands and forestlands; and many farms were developed on lands traditionally utilized by beaver. In general, beaver deterrence, dam modification and removal activities would not require additional working farmlands or forestlands to be converted into other uses.

1) Will the proposal affect or be affected by surrounding working farm or forest land normal business operations, such as oversized equipment access, the application of pesticides, tilling, and harvesting? If so, how:

Beaver activity may result in ponding, including ponding in areas currently or historically used for farms. Beaver deterrence, dam modification and removal activities may result in reduced ponding within the road right-of-way and adjacent properties.

c. Describe any structures on the affected geographic area.

Sites may have culverts, roads, buildings, bridges, parking lots, trails or utilities adjacent to or on site.

d. Will any structures be demolished? If so, what?

Does not apply.

e. What is the current zoning classification of the site?

Zoning classification would vary by site.

f. What is the current comprehensive plan designation of the site?

The comprehensive plan designation would vary by site.

g. If applicable, what is the current shoreline master program designation of the site?

Shoreline master program designation would vary by site. Most maintenance projects are shoreline exempt activities pursuant to the County's *Shoreline Management Master Program (SMMP)*. If not, activities in designated shoreline management areas will undergo all appropriate review.

h. Has any part of the site been classified critical area by the city or county? If so, specify.

Yes. In the County, environmentally sensitive areas such as geologically unstable areas, fish and wildlife habitat conservation areas, and streams or wetlands and their buffers are classified as critical areas. These critical areas may occur in the vicinity of or adjacent to public roadways and other County infrastructure. In general, beaver dam sites are inherently environmentally sensitive, due to their proximity to surface waters. The County designates streams and stream buffers on each side of streams as critical areas.

i. Approximately how many people would reside or work in the completed project?

Does not apply.

j. Approximately how many people would the completed project displace?

Does not apply.

k. Proposed measures to avoid or reduce displacement impacts, if any:

Does not apply.

l. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any:

Does not apply.

m. Proposed measures to ensure the proposal is compatible with nearby agricultural and forest lands of long-term commercial significance, if any:

Does not apply.

9. Housing

a. Approximately how many units would be provided, if any? Indicate whether high, middle or low-income housing.

Does not apply.

b. Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing.

Does not apply.

c. Proposed measures to reduce or control housing impacts, if any:

Does not apply.

10. Aesthetics

a. What is the tallest height of any proposed structure(s), not including antennas; what is the principal exterior building material(s) proposed?

Does not apply.

b. What view in the immediate vicinity would be altered or obstructed?

Does not apply.

c. Proposed measures to reduce or control aesthetic impacts, if any:

Does not apply.

11. Light and Glare

a. What type of light or glare will the proposal produce? What time of day would it mainly occur?

Most beaver deterrence, dam modification and removal activities would not result in light or glare at sites with beaver activity. Installation of an approximately 7-inch diameter blinking light to deter beaver activity would result in light within the immediate vicinity of the site. The blinking light would operate from late dusk till dawn daily until it is removed. Lights would be removed once beaver activity has ceased or an alternate beaver management strategy is tried.

b. Could light or glare from the finished project be a safety hazard or interfere with views?

Blinking lights would not result in a safety hazard. Nighttime views in the immediate vicinity of the beaver activity would be impacted by the blinking light; however impacts would be temporary while the light is in operation.

c. What existing off-site sources of light or glare may affect your proposal?

Does not apply.

- d. Proposed measures to reduce or control light and glare impacts, if any:
Does not apply.

12. Recreation

- a. What designated and informal recreational opportunities are in the immediate vicinity?
Recreational uses would vary by site. Bicyclist and pedestrians use public rights of way for recreational or personal uses. Stream corridors, which are often associated with beaver activity, may be used for wildlife viewing.
- b. Would the proposed project displace any existing recreational uses? If so, describe.
Most beaver deterrence, dam modification and removal activities would not displace recreational uses. However, if heavy equipment is used a temporary road or lane closure may be required to safely operate the equipment. Every attempt would be made to avoid impairing public access.
- c. Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or applicant, if any:
If a road or lane closure is required then traffic control devices such as cones, signs, and flaggers would be used to direct motorists and pedestrians around the site and to alternate access.

13. Historic and Cultural Preservation

- a. Are there any buildings, structures, or sites, located on or near the site that are over 45 years old listed in or eligible for listing in national, state, or local preservation registers located on or near the site? If so, specifically describe.
Beaver deterrence, dam modification and removal may occur in the vicinity of structures over 45 years of age. Specific cultural and historic resources would vary by site.
- b. Are there any landmarks, features, or other evidence of Indian or historic use or occupation? This may include human burials or old cemeteries. Are there any material evidence, artifacts, or areas of cultural importance on or near the site? Please list any professional studies conducted at the site to identify such resources.
In general beaver deterrence, dam modification and removal does not require ground disturbance. The County would evaluate activity locations where ground disturbance of native soil is required or locations with a higher probability for proximity to recorded cultural locations. Activity locations would be mapped and compared to the Geographic Information System (GIS) layer of known cultural sites provided by the Washington Department of Archaeology and Historic Preservation (DAHP) as part of a data sharing agreement. This process identifies activities that may be in proximity to a known cultural site.

If beaver management activity is in close proximity to a known cultural site, appropriate tribal liaisons would be notified and information related to inadvertent discoveries will be provided to work crews. A professional archeologist will be consulted for activities that directly intersect known archeological or historic sites. An archeological survey may be conducted, if determined necessary, to identify whether historic and cultural resources could be affected by the beaver management activity.

c. Describe the methods used to assess the potential impacts to cultural and historic resources on or near the project site. Examples include consultation with tribes and the department of archaeology and historic preservation, archaeological surveys, historic maps, GIS data, etc.

Typically, work on beaver dams occurs in streams and does not require ground disturbance. The County would evaluate activity locations where ground disturbance of native soil is required or locations with a higher probability for proximity to recorded cultural locations. Activity locations would be mapped and compared with the GIS layer of known cultural sites provided by DAHP to determine if recorded archaeological and other types of historic sites could be affected. If beaver management activities intersect a recorded site, an archaeologist would evaluate the site prior to disturbance to determine if cultural resources could be potentially affected. Additional environmental review would occur if ground disturbing activity is found to be on or near a potentially significant cultural site.

d. Proposed measures to avoid, minimize, or compensate for loss, changes to, and disturbance to resources. Please include plans for the above and any permits that may be required.

If work crews discover a protected cultural material (e.g., bones, shell, stone or antler tools), all work in the immediate vicinity would stop, the area would be secured, and any equipment moved to a safe distance away from the location.

If any work crews discover human remains all work in the immediate vicinity would stop, the area secured and any equipment would be moved to a safe distance away from the location. The on-site supervisor would then follow the steps specified in the *Snohomish County Archeological Sites Advisory (Assistance Bulletin #103)* or other inadvertent discovery information provided by the Road Maintenance Environmental Staff to the on-site supervisor.

14. Transportation

a. Identify public streets and highways serving the site, or affected geographic area, and describe proposed access to the existing street system. Show on site plans, if any.

The County maintains a system of arterials, collectors, and local access streets throughout the unincorporated areas. Access to areas where beaver activity occurs would vary by site.

b. Is the site or affected geographic area currently served by public transit? If so, generally describe. If not, what is the approximate distance to the nearest transit stop?

Transit service would vary by site. Four public transit agencies provide service within the County. They are Sound Transit, Community Transit, Everett Transit, and King County Metro. Sound Transit provides service between King and Snohomish counties. Everett Transit provides service within the Everett city limits. Metro provides vanpools for King County residents commuting to Snohomish County employers, and Community Transit provides the bulk of transit service in unincorporated Snohomish County as well as providing service to King County.

c. How many additional parking spaces would the completed project or non-project proposal have? How many would the project or proposal eliminate?

Does not apply.

d. Will the proposal require any new or improvements to existing roads, streets, pedestrian, bicycle or state transportation facilities, not including driveways? If so, generally describe (indicate whether public or private)

Does not apply.

e. Will the project or proposal use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe.

Does not apply.

f. How many vehicular trips per day would be generated by the completed project or proposal? If known, indicate when peak volumes would occur and what percentage of the volume would be trucks (such as commercial or non-passenger vehicles). What data or transportation models were used to make these estimates?

Does not apply.

g. Will the proposal interfere with, affect or be affected by the movement of agricultural and forest products on roads or streets in the area? If so, generally describe.

Does not apply.

h. Proposed measures to reduce or control transportation impacts, if any:

Does not apply.

15. Public Services

a. Would the project result in an increased need for public services (for example: fire protection, police protection, public transit, health care, schools, other)? If so, generally describe.

Does not apply.

b. Proposed measures to reduce or control direct impacts on public services, if any.

Does not apply.

16. Utilities

a. Utilities currently available at the site:

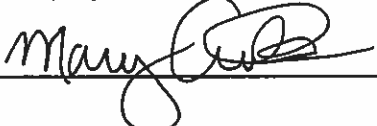
Does not apply

b. Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the site or in the immediate vicinity which might be needed.

Does not apply

C. SIGNATURE

The above answers are true and complete to the best of my knowledge. I understand that the lead agency is relying on them to make its decision.

Signature: 

Name of signee: Mary Auld

Position and Agency/Organization: Senior Planner, Snohomish County Public Works

Date Submitted: October 20, 2015